

ABSTRACT

A method of manufacturing a tubular carbon molecule capable of regularly aligning a carbon nanotube with a finer spacing is provided. A catalyst is arranged on a material substrate (10) made of a semiconductor such as silicon (Si) and including iron (Fe) as a catalyst through the use of melting according to a modulated heat distribution (11). The heat distribution (11) is formed, for example, through diffracting an energy beam (12) by a diffraction grating (13). As a method of arranging the catalyst, for example, iron may be deposited in a planar shape or a projection shape in a position corresponding to the heat distribution (11), or the deposited iron may be used as a master to be transferred to another substrate. A carbon nanotube is grown through the use of the arranged catalyst. The grown carbon nanotube can be used as a recording apparatus, a field electron emission device, an FED or the like.